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Award Number: DAMD17-00-1-0119

TITLE: Interdisciplinary Breast Cancer Training Program

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REPORT DATE: September 2001

TYPE OF REPORT: Annual Summary

PREPARED FOR: U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 074-0188

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	September 2001	Annual Summary (01 Sep 00 - 31 Aug 01)

4. TITLE AND SUBTITLE
Interdisciplinary Breast Cancer Training Program

5. FUNDING NUMBERS
DAMD17-00-1-0119

6. AUTHOR(S)
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8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)
U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

10. SPONSORING / MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION / AVAILABILITY STATEMENT
Approved for Public Release; Distribution Unlimited

12b. DISTRIBUTION CODE

13. Abstract ***(Maximum 200 Words)*** *(abstract should contain no proprietary or confidential information)*

The goal of the University of Alabama at Birmingham Interdisciplinary Breast Cancer Training Program (IBCTP) is to educate and train predoctoral students in a multidisciplinary environment with a focus on breast cancer research. The aims are to 1) recruit predoctoral trainees to the Interdisciplinary Breast Cancer Training program; 2) assure that predoctoral trainees obtain a broad-based breast cancer education and carry out interdisciplinary breast cancer research; 3) administer this program with sufficient oversight to ensure high-quality education and training, efficient completion of degree requirements, and productive research careers. Our faculty is drawn from 11 departments/affiliations. Our training program is designed to prepare and motivate trainees to pursue careers in the fields of breast cancer causation, prevention, diagnosis, therapy and education. In academic year 2000-2001, we had 2 predoctoral students successfully complete their course work and laboratory rotations, and have recruited an additional 2 students for 2001-2002. The IBCTP hosted 6 outside scientists to present seminars on breast cancer related research and to talk to the predoctoral trainees. The interdisciplinary Breast Cancer Causation and Regulation course received a "very good" evaluation.

14. Subject Terms (keywords previously assigned to proposal abstract or terms which apply to this award)
Breast Cancer, Interdisciplinary, Predoctoral, Training

15. NUMBER OF PAGES
13

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	Unlimited

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INTRODUCTION

The goal of the University of Alabama at Birmingham Interdisciplinary Breast Cancer Training Program (IBCTP) is to educate and train predoctoral students in a multidisciplinary environment with a focus on breast cancer research. Our faculty is drawn from 11 departments/affiliations. The aims are to 1) recruit predoctoral trainees to the IBCTP; 2) assure that predoctoral trainees obtain a broad-based breast cancer education and carry out interdisciplinary breast cancer research; 3) administer this program with sufficient oversight to ensure high-quality education and training, efficient completion of degree requirements, and productive research careers. Our training program is designed to prepare and motivate trainees to pursue careers in the fields of breast cancer causation, prevention, diagnosis, therapy and education.

KEY ACCOMPLISHMENTS

Specific Aim 1) To recruit predoctoral students to UAB's Department of Defense Interdisciplinary Breast Cancer Training Program (IBCTP).

In the first year we had 11 x 17 inch breast cancer recruitment posters printed. These were mailed to universities and colleges in the U.S. We also set up a web site (http://main.uab.edu; click onto Graduate School; Programs of Study; Administration and Business; Basic Life and Biomedical Sciences; Breast Cancer Training Program). To students that inquire about the IBCTP, we send out letters, information about the IBCTP and UAB, and graduate school applications. Applications were reviewed by the admissions committee, and selected applicants offered the opportunity of visiting UAB for an interview.

For academic year 2000-2001, 4 applicants (from 10 completed applications) were interviewed and fellowships offered to 2 students (Craig Rowell and Angie McDonald). Mr Rowell has successfully completed the first year with a 3.35 GPA. Ms. McDonald was academically in good standing after the first quarter, but withdrew from graduate studies for personal reasons (Her husband's job was transferred to Maine.). We subsequently identified Ms. Chantelle Bennetto, a second year predoctoral student interested in breast cancer research for support via the IBCTP. She has a 3.68 GPA.

For academic year 2001-2002, 5 applicants were interviewed (from 37 applications) and fellowships offered to 3 students (Mubina Nasrin, Damon Bowe and Kristina Wyatt). Ms. Nasrin and Mr. Bowe accepted and are presently enrolled in the IBCTP. Ms. Wyatt accepted, but two weeks prior to start of classes she informed us that she was going to attend another university (reason: to get away for the immediate influence of her parents). Unfortunately, it was too late to offer the fellowship to another student.

Aim 2. To assure that predoctoral trainees obtain a broad-based breast cancer education and gain experience in interdisciplinary breast cancer research.

Interdisciplinary education is facilitated by faculty from 11 departments/programs in the form of specialty and core courses including, Breast Cancer Causation and Regulation, Biological Chemistry and Cellular Physiology, Pathophysiology and Pharmacology of Disease, Molecular Medicine and Functional Genomics, Principles of Toxicology, Breast Cancer Seminars, 3 laboratory rotations and electives. Interdisciplinary research is promoted via laboratory rotations, and require primary- and secondary-research foci. Students select their mentors in the second year and, in the third year they will identify dissertation committees that will reflect interdisciplinary research.

In addition to structured lectures, the IBCTP supports a breast cancer seminar series whereby we have experts in cancer causation and regulation come to our campus and provide seminars and meet with our students. This expands the education and training of our predoctoral trainees, and provides them with the opportunity of meeting future employers. This has received a most favorable response from students and faculty. The list of seminar speakers is provided in the Appendix.

Aim 3. To administer this institutional training program with sufficient oversight to ensure high-quality education and training, efficient completion of degree requirements, and productive research careers.

The IBCTP Executive Committee oversees the interviewing and selection of prospective predoctoral students, the academic and research program, the progress of the trainees and the budget. The Executive Committee consist of representatives from 5 interdisciplinary research foci: Robert B. Diasio (Cancer Pharmacology), Thearse Strong (Gene Therapy), Clinton Grubbs (Chemoprevention), Francis Kern (Mechanisms of Growth Control), Charles N. Falany (Cancer Causation), plus one student trainee (Mr. Craig Rowell), and Dr. Coral A. Lamartiniere (Program Director). This is an ongoing process.

The appendix contains the lectures for the Breast Cancer Causation and Regulation course for 2000 and 2001. Changes in this course take into consideration the course evaluation by the students and course director. The course in 2000 received a "very good" evaluation.

REPORTABLE OUTCOMES

We do have 4 students enrolled in the IBCTP. Please see the Appendix for credentials.

Two students did attend the 2001 American Association for Cancer Research Meeting in New Orleans.

The IBCTP did host 6 seminar speakers. The list of speakers is provided in the Appendix.

After one year, there are no publications by the students.

REQUEST FOR MODIFICATION

Our original request was to fund fellowships for 2 students for 4 years, and 3 students for 3 years, a total of 5 predoctoral students. With the large number of applicants (37 in 2001), this reinforces the high demand for the field of breast cancer research and leads us to propose the recruitment and admittance of more predoctoral students with the same fellowship allotments. At UAB, the norm is to award institutional fellowships to students for 1-2 years (and if necessary for additional years), and have future assistantships be provided by the mentor and his/her department. At UAB, the research faculty are reasonably well funded and are receptive to paying the stipends of trainees in order to have good graduate students do research in their labs. Furthermore, shortly after the DOD awarded this predoctoral training grant, UAB was awarded an NIH Specialized Program of Research Excellence (SPORE) in Breast Cancer (Dr. Kirby Bland, PI). With this, we have been able to attract more breast cancer researchers (12) and will continue to do so. This puts us in the position of having more potential breast cancer mentors for our trainees. Accordingly, we request the use of the allocated fellowships for the first 1-2 years of each student's education/training, with the option of awarding renewal fellowships if necessary (if the mentor can not fund the fellowship). We fully expect that the mentors/departments will pick up the remaining cost via research assistantships. In this manner, we should be able to accept more trainees into the field of breast cancer research (up to a total of 10 Ph.D. students). We do not request additional money from the DOD Breast Cancer Program, simply more optimum use of the allocated fellowships.

APPENDIX

Student Credentials

IBCTP Faculty

IBCTP Seminar Speakers

2000 and 2001 Breast Cancer Caustion and Regulation lectures

Students Enrolled in the University of Alabama at Birmingham Interdisciplinary Breast Cancer Training Program

Student	Previous Degree Institution	Date of Entry	GPA	GRE Verbal	GRE Quantitative	GRE Analytical
Craig Rowell	BS (95) Lake Forest IL MS (00) UAB	2000	3.8	580	610	680
Chantelle Bennetto	BS (99) U. Saskatoon Canada	2000	4.0	510	660	710
Mubina Nasrin	MD (94) M.R. Medical College, India	2001	no GPA	690	650	670
Damon Bowe	BS (99) Bates College Maine	2001	3.5	590	580	710

University of Alabama at Birmingham Interdisciplinary Breast Cancer Training Program Faculty

New IBCTP Faculty and Affiliations

Susan Bellis, Ph.D., Physiology/Biophysics
Kirby I. Bland, M.D., Medicine
Donald Buchsbaum, Ph.D. Radiation Biology
David Chhieng, Ph.D., Pathology
Igor Dmitriev, Ph.D. Gene Therapy
Andra Frost, M.D., Pathology
William Grizzle, M.D., Ph.D. Pathology
Donald Hill, Ph.D., Chemoprevention
Victor Krasnykh, Ph.D., Gene Therapy
Yulia Maxuitenko, Ph.D., Southern Research Institute
Zhican Qu, Ph.D., Southern Research Institute
Bradley Yoder, Ph.D., Cell Biology

Previously listed IBCTP Faculty and Affiliations

Stephen Barnes, Ph.D. Pharmacology and Toxicology
Wayne Brouillette, Ph.D., Chemistry
Robert M. Conry, M.D., Medicine
Robert B. Diasio, M.D., Pharmacology and Toxicology
Charles N. Falany, Ph.D., Pharmacology and Toxicology
Clinton J. Grubbs, Ph.D., Nutrition Sciences
Robert W. Hardy, Ph.D., Pathology
Sham S. Kakar, Ph.D., Physiology
Francis G. Kern, Ph.D., Pathology
Jeffrey Kudlow, Ph.D., Medicine
Coral A. Lamartiniere, Ph.D. Pharmacology and Toxicology
Donald Muccio, Ph.D., Chemistry
Deodutta Roy, Ph.D., Environmental Health Science
Michael Ruppert, M.D., Medicine
Theresa V. Strong, M.D., Medicine

University of Alabama at Birmingham Interdisciplinary Breast Cancer Training Program Seminars

September 12, 2000
Stephen Safe, Phil.D.
Department of Veterinary Physiology & Pharmacology
Texas A & M University
"A New Mechanism for Estrogen Regulation of Genes in Breast Cancer Cells"

December 5, 2000
Michael N. Gould, Ph.D.
University of Wisconsin-Madison
McArdle Laboratory for Cancer Research
"Genetic Identification of Mammary Cancer Susceptibility Modifier Genes: Implications for Risk Assessment and Cancer Prevention "

December 12, 2000
Daniel Medina, Ph.D.
Dept of Molecular and Cellular Biology
Baylor College of Medicine
"Modeling Breast Cancer in Genetically Engineered Mice"

January 9, 2001
Curtis Klaassen, Ph.D.
Department of Pharmacology & Toxicology
University of Kansas Medical Center
"Regulation of Transporters"

February 13, 2001
Ron Orlando, Ph.D.
Department of Biochemistry and Molecular Biology, University of Georgia
"Studying Protein-Carbohydrate Interactions and Protein Glycosylation (at a Proteome Level) with Mass Spectrometry"

April 24, 2001
Nancy Weigel, Ph.D.
Associate Professor, Dept of Cell Biology
Baylor College of Medicine
"Regulation of Nuclear Receptor Function through Cross-talk with Cell Signaling Pathways"

July 13, 2001
Sari Makela, M.D., Ph.D.
Department of Anatomy – University of Turku
"Biological Effects of Phytoestrogens"

Year 2000

Breast Cancer Causation and Regulation

TOX 750

Mondays and Wednesday, 3-5 pm in Volker Hall 108D

Course Director: Coral A. Lamartiniere
Volker Hall 124; 4-7139; Coral.Lamartiniere@ccc.uab.edu
Administrative Coordinator: Elizabeth Wilson
Volker Hall 101C; 4-4579; Elizabeth.Wilson@ccc.uab.edu

Date	Topic	Instructor (Department)
Mon Sept 11	Overview of the Breast Cancer Problem	John Waterbor (Epi)
Wed Sept 13	Genetics and Breast Cancer	Rodney Go (Epi)
Mon Sept 18	Estrogens and Breast Cancer	Deodutta Roy (Env Hlt Sci)
Wed Sept 20	Nutrition and Breast Cancer	Gary Johanning (Nutrition Sci
Mon Sept 25	Environmental Epidemiology	Mary Hovinga (Epi)
Wed Sept 27	Environmental Carcinogenesis	Coral Lamartiniere (Pharm/Tox)
Mon Oct 2	Exam	
Wed Oct 4	Animal Models in Breast Cancer	Clinton Grubbs (Chemoprevention)
Mon Oct 9	Mathematical Modeling of Cancer Prognosis	Seng-Jaw Soong (Biostatistics)
Wed Oct 11	Oncogenes and Suppressor Genes	Mike Ruppert (Medicine)
Mon Oct 16	Steroid Hormone Action in the Breast	Stephen Barnes (Pharm/Tox)
Wed Oct 18	Breast Cancer Politics and Policy	Janet Bronstein (Health Care Policy)
Mon Oct 23	Exam	
Wed Oct 25	Primary Prevention	Mona Fouad (Preventive Medicine)
Mon Oct 30	Screening for Breast Cancer	Eva Rubin (Radiology)
Wed Nov 1	Cancer Pharmacology	Robert Diasio (Pharm/Tox)
Mon Nov 6	Pathology of Breast Cancer	Andra Frost (Pathology)
Wed Nov 8	Gene Therapy	Theresa Strong(Gene Therapy)
Mon Nov 13	Targeted Immunotherapy	Denise Shaw (Medicine)
Mon Nov 20	Exam	

Fall 2001

Breast Cancer Causation and Regulation

TOX 750

Mondays and Wednesday, 3-5 pm in Volker Hall 108D

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Volker Hall 124; 4-7139; Coral.Lamartiniere@ccc.uab.edu

Administrative Coordinator: Elizabeth Wilson Volker Hall 101C; 4-4579; Elizabeth.Wilson@ccc.uab.edu

Date	Topic	Instructor (Department)
Wed Sept 5	Overview of the Breast Cancer Problem	John Waterbor (Epi)
Mon Sept 10	Estrogens and Breast Cancer	Deodutta Roy (Env Hlt Sci)
Wed Sept 12	Primary Prevention	Mona Fouad (Preventive Medicine)
Mon Sept 17*	Breast Cancer Politics and Policy	Janet Bronstein (Health Care Policy)
Wed Sept 19	Environmental Carcinogenesis	Coral Lamartiniere (Pharm/Tox)
Mon Sept 24	Exam	
Wed Sept 26	Animal Models in Breast Cancer	Clinton Grubbs (Chemoprevention)
Mon Oct 1	Drug design and synthesis	Donald Muccio (Chemistry)
Wed Oct 3	Oncogenes and Suppressor Genes	Mike Ruppert (Medicine)
Mon Oct 8	Mathematical Modeling of Cancer	Seng-Jaw Soong (Biostatistics)
Wed Oct 10	Steroid Hormone Action in the Breast	Stephen Barnes (Pharm/Tox)
Mon Oct 15	Exam	
Wed Oct 17	Antiestrogens in Breast Cancer	Francis Kern (SRI and Pathology)
Mon Oct 22	Cancer Pharmacology	Robert Diasio (Pharm/Tox)
Wed Oct 24	Pathology of Breast Cancer	Andra Frost (Pathology)
Mon Oct 29	Gene Therapy	Theresa Strong (Gene Therapy)
Wed Oct 31	Targeted Immunotherapy	Denise Shaw (Medicine)
Mon Nov 5	Exam	